Case Report

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Focal Myositis: Case Report of an Unusual Neck Mass

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ABSTRACT

Background: Focal myositis should be considered in the differential diagnosis of a neck mass, specifically in the region of the sternocleidomastoid. It is essential to promptly diagnose, and differentiate the condition from generalized inflammatory myopathies, dystrophies, and neoplasms. The clinical picture mimics neoplasia, and diagnosis can only be confirmed on biopsy. The prognosis for focal myositis is excellent. It usually resolves; spontaneously, after biopsy or excision, and after treatment with a course of corticosteroids. Accurate diagnosis of the condition and avoiding unnecessary aggressive therapy is of utmost importance.

Keywords: Focal myositis, pseudotumor, sternocleidomastoid.

INTRODUCTION

Focal myositis is a rare, benign, inflammatory pseudotumor of unknown aetiology, affecting skeletal muscle, and usually regresses spontaneously. It usually involves a single muscle, shows rapid growth, and is often misdiagnosed as a malignant neoplasm. Focal myositis was first described by Heffner et al. in 1977 in a series of 16 patients, who presented mostly with the involvement of the lower extremity muscles. In this series, a progressively enlarging, localised painful mass was noticed within a muscle group, without any attachment to the overlying skin. Histological evaluation showed myopathic changes, with lymphocytic infiltration.[1] Since the publication of the first series in 1977, focal myositis has been described in the scientific literature about 30 times. Majority of the cases were reported in the muscles of the extremities, with a few in head and neck region. There have been five case reports of the condition affecting the sternocleidomastoid muscle.[2,3,4,5,6] The usual presentation is a solitary mass, and microscopic appearance mimics generalised inflammatory myopathy. The relatively rapid growth of the lesion raises the suspicion of a malignant process, usually a sarcoma. Its rare incidence and nonspecific clinical presentation pose a diagnostic challenge.

CASE REPORT

A 33-year-old male patient presented to the department of oral & maxillofacial surgery with an asymptomatic swelling in the left neck region, of 18 months duration, which gradually increased in size. There was no associated pain or discomfort. The patient was however concerned about the increase in the size of the lump and its appearance. His medical and family history was non contributory and he had no deleterious habits. Clinical examination showed about 4cm x 5cm firm, non tender swelling in the left neck (**Fig.1**). The lump was deep to the parotid and seemed to be fixed to the underlying structures. Overlying skin was normal and there were no pulsations felt in the area. There was no pyrexia and there was no history of recent weight loss, loss of appetite or night

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sweats. Ultrasound and CT/MRI scan were suggestive of a space-occupying lesion in

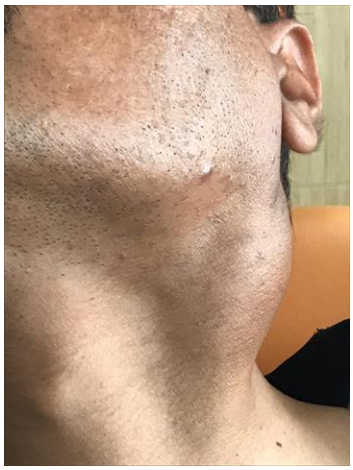

Fig 1: Lesion Left Sternocleidomastoid Region.

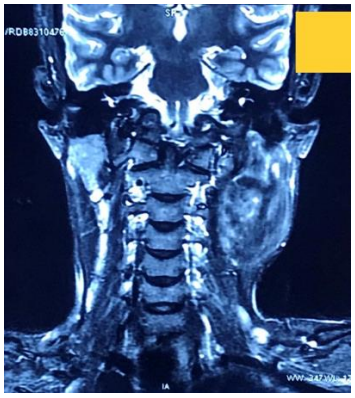

Fig 2: Coronal Section of MRI Neck - Lesion Left Sternocleidomastoid Region.

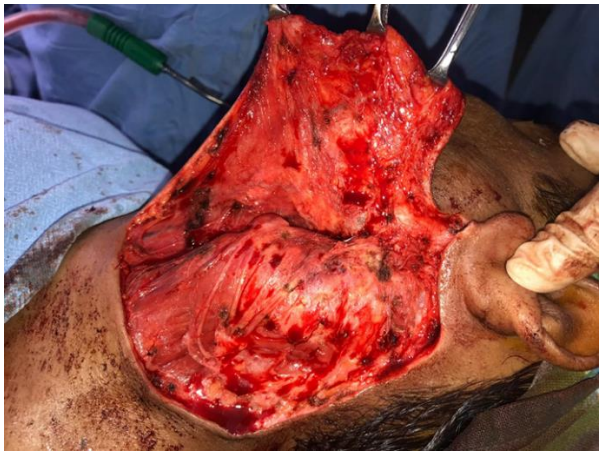

Fig 3: Intra Operative View of Lesion Left Sternocleidomastoid Region.

the left carotid space, displacing the internal jugular vein (**Fig.2**). Ultrasound-guided fine-needle aspiration cytology showed abundant mature squamous epithelial cells and keratinous material, suggestive of a keratinous cyst. There was no evidence of any atypical or malignant cells. Differential working diagnosis included vagal schwannoma, paraganglioma, parapharyngeal tumour and neurogenic tumour.

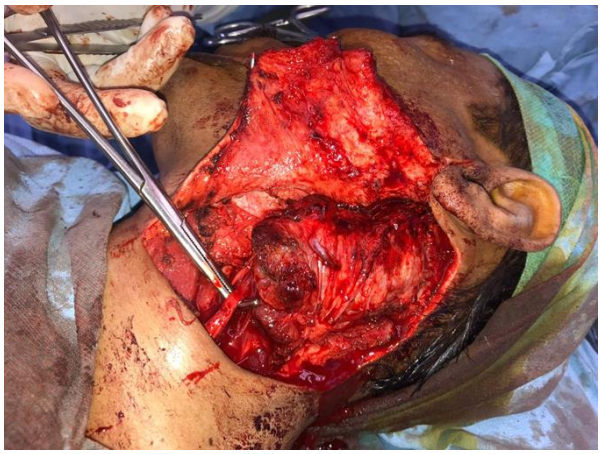

Fig 4: Intra Operative View - Lesion Excised from Left Sternocleidomastoid Region.

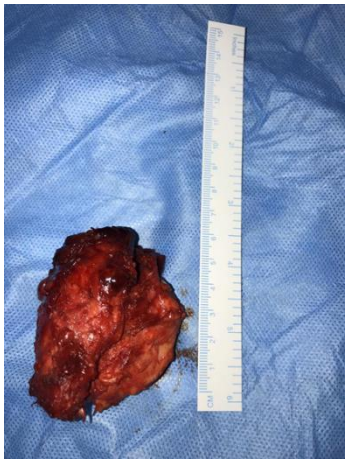

Fig 5: Excised Lesion Sent for Histopathological Evaluation.

After a detailed discussion of the clinical and radiographic findings, treatment options, risks and complications, excision of the mass was carried out under general anaesthesia. Intraoperatively, the lesion measuring about 7 x 6 x 3 cm, appeared to be involving the sternocleidomastoid muscle and extending into the carotid triangle (**Fig.3**). Complete excision of the lesion was done (**Fig.4**), and the specimen was sent for histopathological evaluation (**Fig.5**). Microscopic findings showed degenerative and regenerative changes in the muscle fibres, associated with patchy dense

interstitial inflammation and fibrosis. The inflammatory infiltrate was mostly composed of mature lymphocytes and macrophages. Focal lymphoid follicle formation was also noted. There was no evidence of atypia or malignancy. The final impression was of focal myositis. There were no intraoperative or postoperative complications and recovery and healing were uneventful. The patient has been under regular follow up for about 18 months now, and there is no evidence of recurrence.

DISCUSSION

Focal myositis is a localised inflammatory process affecting skeletal muscles, belonging to the pathological group of inflammatory pseudotumours of soft tissue. This group includes myositis ossificans, proliferative myositis and nodular pseudosarcomatous fasciitis. Injury to the muscle fibres, denervation of the affected region, [7] and viruses [8] have been implicated in the pathogenesis of focal myositis. It is most commonly seen in the skeletal muscles of the leg, but the involvement of other unusual intramuscular sites including thorax, abdomen, forearm, perioral region [9] and tongue, [10,11,12,13] eyelid, [14] oesophagus [15] have been reported.

Focal myosotis affects the head and neck muscles rarely. The sternocleidomastoid muscle is the most commonly affected muscle in the head and neck, with five reported cases in the literature. [16,17,18,19,20] Temporalis involvement has been noted in one case. [21] The age range is relatively broad with two cases described in children. [16,17] A meta-analysis of 100 trials reported that 6% of the patients were less than 14 years of age; 80% were between 15 and 64 years of age, and 13% were over 65 years of age. [22]

Focal myosotis must be differentiated from other inflammatory pseudotumors. There is no involvement of muscular fascia as in nodular fasciitis, and there is an absence of mineralised material as seen in myositis ossificans. Polymyositis may begin as a localised disease process. However, systemic manifestations, including fever, malaise, dysphagia, and arthralgias, follow. Proliferative myositis has a prominent fibroblastic proliferation in the connective tissue with basophilic giant cells, which is not seen in focal myositis.

Clinically, focal myositis presents as a mildly painful, intra-muscular mass that increases in size over a short period of days or weeks. Systemic symptoms may be minimal or absent. In most cases, WBC count and ESR are either normal or minimally elevated, while CPK and aldolase are within normal limits. Yalmaz Alnigenis et al. reported erythrocyte sedimentation rate elevation in 25% and creatine phosphokinase increases in 24% of cases. [22]

Macroscopically, the affected muscle is a pale pink rubbery mass without any involvement of fascia, tendons, overlying skin or subcutaneous tissue. There is no absolute demarcation from the healthy skeletal muscle. Focal myositis presents on CT as a homogenous mass within the muscle without involvement of surrounding structures.

Definitive diagnosis is arrived at by incisional biopsy of the affected tissue. The histological picture is characteristic, with predominantly small mature lymphocytic and other inflammatory cell infiltration of necrosed and regenerating muscle fibres. In more chronic cases, there is connective tissue production in the endomysium and perimysium. The histopathologic features of inflammatory myopathies can show considerable overlap with focal myositis.

Although the clinical presentation of focal myositis is aggressive, mimicking a neoplasm, it is a completely benign condition that resolves spontaneously or with surgical intervention. The rationale for use of corticosteroids in the treatment, is the inflammatory nature of the condition. Steroids are effective in resolution of the lesion. The muscle contour and function eventually return to normalcy. Recurrent lesions in other skeletal muscles are possible, and few patients may develop polymyositis. Long term follow-up is therefore recommended.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

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